

THE ELECTRIC AGE.

DEVOTED TO TELEGRAPHY, TELEPHONY, ELECTRIC LIGHTING AND ALL PHASES OF ELECTRICAL DEVELOPMENT.

VOL. VII—No. 8.

NEW YORK, SEPTEMBER 16, 1889.

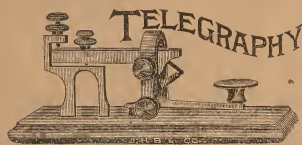
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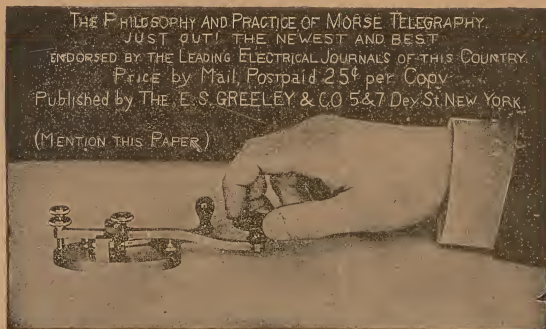
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The truth (referring to the true position of the telegrapher's hand in the act of "sending") exposed by a lightning wink of the instantaneous camera, and permanently fixed for our deliberate inspection by the refinements of photography, dawns upon the craft intellect accompanied with something of the amazement that startled the artistic world when the elaborate anatomical studies by Rosa Bonheur of the horse in the act of running were delivered over to universal ridicule by the subtleties of the same agent, instantaneous photography.—*The Electrical Review*, March 24, 1888.

The following diagram from the *Philosophy and Practice of Morse Telegraphy* gives an intimation of its scope.

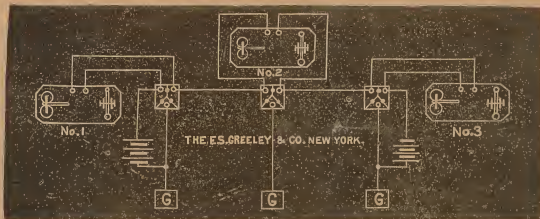


DIAGRAM No. 19.

Diagram No. 19, showing three Home Instruments or other short line combination sets, connected up on a grounded circuit with Excelsior Lightning Arresters at three distinct offices. The Switch Pin in this case, while instruments are in use, must be kept in the "dead hole," which is the hole in the center of the middle plate.

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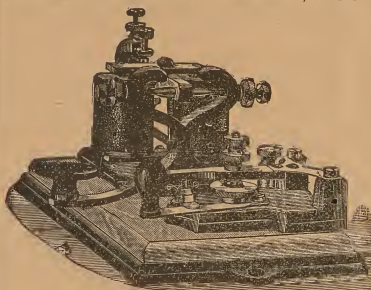
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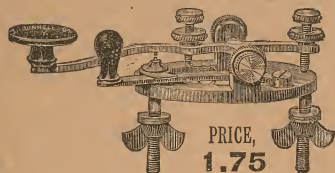
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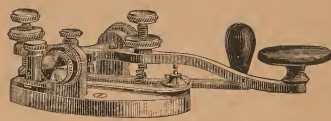


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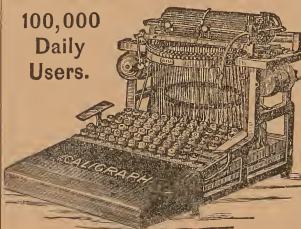
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NEW YORK, SEPTEMBER 16, 1889.

NATIONAL TELEPHONE EXCHANGE ASSOCIATION CONVENTION.

The National Telephone Exchange Association Convention which was held at Minneapolis, beginning September 10th, was largely attended by delegates from all sections of the country. The meeting, of course, was a success.

The papers read were as follows:

"A New Era in Telephoning," by A. S. Hibbard, F. J. Carty, F. A. Pickernell, all of New York.

"Switchboards and Long Distance Lines on Grounded Circuits," by Flemon Drake, of Omaha.

"Telephone Salutations," by R. M. Bailey, of Williamsport, Pa.

"Underground Wires," J. C. Reilly, of Brooklyn.

"Observations," by W. D. Sargent, of Brooklyn.

"Switchboards," by Geo. J. Davidson, of Brooklyn.

General Barney, the popular secretary of the association, was presented with a diamond scarf pin, while en route to Chicago, by his many friends on board the "telephone limited." Gen. Barney, as is his custom, was assiduous in his endeavors to make every person happy and comfortable, and that he was successful goes without saying. The Telephone Exchange Association very wisely re-elected its popular secretary. He is certainly the right man in the right place. The Chicago and Central Union Telephone Companies appointed Messrs. F. G. Beach and C. H. Wilson a committee to provide entertainment for the party while in Chicago. After a sumptuous lunch, which was served in the new rooms of the Chicago Electric Club, the entire party was driven around the city to view the sights of that rapidly growing central metropolis.

The entertainment in Minneapolis and St. Paul was characteristic of Western enterprise. Committees saw that the very most was made of the three days' sojourn in that locality.

From a social as well as business and educational standpoint the telephone convention was an immense success. Detroit, Mich., secured the next convention.

CONVENTION OF OLD-TIME AND MILITARY TELEGRAPHERS.

The United States Military and Old-Time Telegraphers held their annual reunion at Louisville, Ky., Sept. 11th and 12th, and it turned out to be the most successful meeting ever held. The next meeting will take place at Kansas City, Mo., Mr. Day K. Smith of that city being elected president of the Old-Timers' Association. The officers of the United States Military Telegraphers were not changed, W. R. Plum, of Chicago, being re-elected president and Alderman J. E. Pettit, of the same place, secretary. Mr. Wm. J. Dealy, the popular secretary of the Old-Timers was also re-elected. The secretary is compelled to do a great deal of gratuitous hard work in the performance of his duties, but when a large attendance responds to the annual call Mr. Dealy appears to be amply repaid for the too often unappreciated labors of Secretary. The New York delegation consisted of twenty-five members of the profession, all of whom expressed entire satisfaction at the liberal manner in which "Southern Hospitality" was dealt out to all while in Louisville. The citizens generally and the members of the profession, particularly of that city, are a jolly, whole-souled crowd, and their generosity and hearty welcome will be remembered by all for a long time to come.

The delegations from other sections of the country were also amply repaid for their visit to Louisville. The retiring president of the Old-Timers' Association, Mr. Charles E. Taylor, of Frankfort, Ky., has the satisfaction of knowing that his labors in the cause of the association were fully appreciated and heartily applauded. Mr. Charles Smith, the manager of the Louisville Western Union office, also performed his duties as chairman of the Committee of Arrangements in a gratifying manner, and the members at large will long remember the good time had at Louisville 1889 Reunion.

TELEPHONE AND TELEGRAPH FACILITIES IN MEXICO.

MR. EDITOR. *Dear Sir:* In your issue of July 16th, '89, page 1, you say "The New York and New Jersey telephone line through the city limits of Newark, N. J., contains 170 wires. We doubt if this number can be beaten in separately strung wires."

The Mexican Telephone Co. in this city have on Tacuba street one line of poles, 80 feet high, containing 50 8-pin arms, 400 wires, and every pin full, and on the opposite side of the street another line of poles containing 15 8-pin arms, 120 wires, both of which are as fine a piece of wire-running as I have ever seen in any country. I write this that you may see that the telegraph and telephone interests are not so far behind the "States" as some people think. This city is well lighted by electricity. The railroad and telegraph companies are adopting the latest pattern of instruments, etc. The Mexican Central Railroad is sparing no pains or expense to make their system equal to any.

Yours truly,

G. R. STANTON, *Telegraph Inspector.*

The Philadelphia and Reading Railroad Company has recently been experimenting with an electric device to increase the friction of locomotive wheels upon the track and prevent slipping. A low-tension current, generated by a small dynamo, is passed from the front driving-wheel to the track, and from the track again to the back wheel. It is said that the effect of this current is more marked than sand sprinkled on the track, and that experiments have fully proved its value.

THOMSON-HOUSTON ELECTRIC RAILWAY SYSTEM.

The new electric railway at Nashville, Tenn., which is one of the roads recently equipped by the Thomson-Houston Electric Company, has been running now for some little time. This road is six and one-eighth miles in length, half of which is laid with Johnson rail, the other half, with the exception of about one-quarter of a mile, of 20-lbs. steel T rail.

There are thirteen curves on the line, and several grades, the steepest of which is $5\frac{1}{2}$ per cent. In the overhead construction the suspension method has been used throughout. The cars are six in number, and are each equipped with two 10 horse-power motors. They make on an average 475 miles per day.

The power house is a large brick building, 175x70 feet, and contains two steel boilers built by Phoenix Iron

NO POSTAL TELEGRAPH JUST YET.

WASHINGTON, Sept. 1.—Dr. Norvin Green, president of the Western Union Telegraph Company, after several consultations with Postmaster-General Wanamaker, left for New York. If Dr. Green has agreed to take a mill a word for Government messages or Mr. Wanamaker has been persuaded to continue to allow a cent a word as heretofore, nobody has been able to discover, but it is almost certain that no conclusion has yet been reached. Mr. Wanamaker has taken his stand on a substantial reduction of the tolls on Government telegrams, and he will do all in his power to carry his point. It is understood that he rather favors the proposition to establish a Government telegraph system to be worked in connection with the Post-Office Department, and the probability is that he will utilize the recent agitation of that subject to



THOMSON-HOUSTON ELECTRIC RAILWAY SYSTEM, AT NASHVILLE, TENN.

Works. The power house is built to allow a sufficient addition to bring the total horse power to 1,000. There are two Deck & Church 100 horse-power engines with pumps and station fittings for 800 horse-power. The electrical equipment consists of two 80 horse-power generators, switch board and necessary electrical appliances for operating the same.

The stables and power house are lighted from the dynamos. The company is so much pleased with the operation of the system that it has decided to equip all its lines with electricity as soon as practicable.

Seasonable information—First Omahan—One must look out for hydrophobia this hot weather. Do you know how to tell a mad dog? If I had anything to tell a mad dog I should do it by telephone.

carry his point against the Western Union. Neither Dr. Green nor Mr. Wanamaker would say a word, good, bad or indifferent, on the subject of the conference, beyond the mere statement that nothing had been concluded. Their attention was called to the report that it was proposed to utilize the letter-carriers to deliver Western Union messages, and on that subject they would neither affirm nor deny. But the report does not need denial. Apart from the fact that the Postmaster-General could not enter into any such contract without a special act of Congress, and apart from the fact that Congress would hardly legislate to make Western Union Telegraph messengers of the letter-carriers, it is very well known that the present force of letter-carriers employed at the various post-offices throughout the country have no spare time on their hands.

THE PRITCHARD ELECTRIC WATER-WHEEL GOVERNOR.

For some time past the water-wheel driving the dynamos of the Cedar Falls Electric Light Company, of Cedar Falls, Iowa, has been regulated by a simple and ingenious governor, known as the Pritchard Electric Water-Wheel Governor. The operation of the apparatus has been so satisfactory that its regular manufacture has been taken up by the Cedar Falls Iron and Brass Works, and has still further been adapted to the governing of other devices.

The machine is shown in the accompanying illustration, fig. 1, and will be seen to consist of two electro-magnets, B1 and B2, placed upon standards in a stationary position. Opposite these electro-magnets are situated the armatures C1 and C2, the weight of which overbalances that of the pawls, D1 D2, and normally holds them out of engagement with the teeth of the ratchet wheel R, which is keyed to the gate stem of the water wheel, or other apparatus to be regulated.

These pawls D1 D2 and armatures C1 C2 are carried by arms, one of which is removed for the sake of clearness in the figure, but the other of which S appears, and carries the armature C1. These two arms are continually vibrated back and forth by means of an ordinary crank and connecting rod, driven by a sixteen-inch pulley, with four-inch face, so that the soft iron plates which are riveted at their ends just touch the poles of their respective electro-magnets at the end of each stroke. These electro-magnets are energized by three or four gravity cells, and the terminals

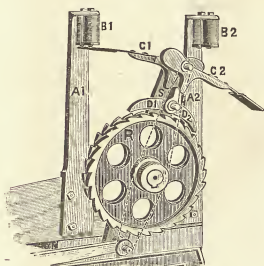


FIG. 1.

are brought in connection with a high-speed governor. This may be substituted by a solenoid maintaining a constant current or a pressure diaphragm for maintaining a constant pressure, a float for maintaining a constant level, or by hand by means of a push button, switch, or almost any device necessary to accomplish the desired results.

When the machine is at normal speed the magnets are not energized and the armatures swing freely back and forth; but when the speed changes the governor makes the contact, the current passes through one of the electro-magnets, and by the magnetism produced causes the respective armature to adhere to the same. The two electro-magnets are employed to control both the increase and decrease in speed, and their action is identical.

This governor is also applied to the operation of rheostats for maintaining constant current or potential on electric circuits, for which purpose the high-speed governor may be replaced by a solenoid, which makes the desired electric contact. For such purposes the machine occupies but very small space. It will be noted that the

machine is simple in construction. It has proved very efficient in its service. Fig. 2 is a full view of the Pritchard Electric Water-wheel Governor.

The advantages of this governor are that there are fewer parts to wear out than any other. Having so few parts it is rid of friction almost entirely, thus saving wear and power; it can be applied to any work needing a steady motion; it can also be adjusted to any size wheel and can be controlled at any distance by cables or wires.

The following is a partial list of the users of the Pritchard Electric Water-wheel Governor: Seneca Electric Co., Seneca Falls, N.Y.; Thomson-Houston Electric Co., Lyons, N.Y.; Brush Electric Light Co., Rochester, N.Y.; Johnstown Electric Light Co., Johnstown N.Y., and many others.

This governor is giving the utmost satisfaction wherever it is in operation. James H. Cross, superintendent of the Johnstown, N.Y., Electric Light and Power Co., says: "The four governors that were placed in position recently by Mr. Pritchard are doing excellent service. You may safely refer to us for a recommendation of their value. A short trial is a convincing proof of their efficiency." Such testimonials speak for themselves.

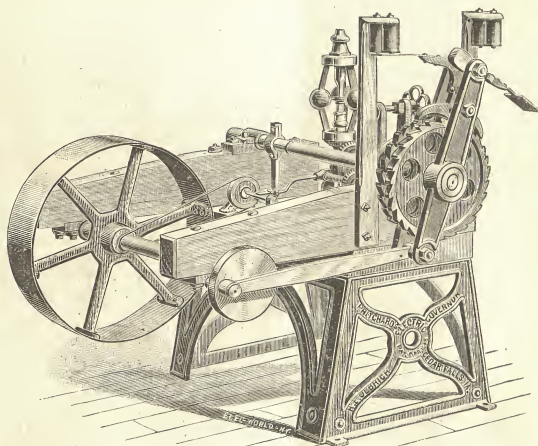


FIG. 2.

STORAGE BATTERY LITIGATION.—The Mutual Electric Manufacturing Co. of Graham street, Brooklyn, has been manufacturing storage batteries for some time; the Brooklyn Incandescent Electric Light Company have used these batteries to illuminate the Brooklyn Library, and several other buildings. The Electrical Accumulator Company of New York, claiming that this manufacture and use of storage batteries was an infringement of two or more of their patents, have recently begun suit in the United States Courts, and Judge Lacombe has granted a preliminary injunction, which will operate to stop further manufacture and use of infringing batteries in Brooklyn.

The Western Union Telegraph Company should issue Uncle Sam a book of passes and settle the vexatious question of tariff charges for government business. One mill per word would not pay for the necessary bookkeeping.

Zenus F. Wilbur, perhaps the most important witness in the great suit against the Bell Telephone Company, was found dead in bed in Denver, Colorado, on Thursday. His death evidently resulted from hard drinking.

ANNUAL RE-UNION OF OLD TIMERS AND U. S. MILITARY TELEGRAPHERS.

Between thirty and forty members of the United States Military Telegraph Corps, met for the business session at the Louisville Hotel, Louisville, Ky., at 10.30 o'clock a. m., on the 11th inst. with President Plum in the chair. Secretary Pettit was present but Vice-President Maynard could not get there. The president's address was a long and able one in which he reviewed the history of the services of military telegraph operators and recounted many interesting incidents connected therewith. His address was received with hearty applause.

The applications for membership of Messrs. W. H. Hartman of Lexington, Ky.; R. D. E. Rowe of Pittsburg; E. M. Shape of Milwaukee; W. L. Biggert of Jeffersonville; J. G. Webb of Louisville; A. D. Dougherty of Cold Water, Mich., and R. A. Taylor of Terre Haute, Ind., were referred to the proper committee. The reports of the regular committees were next heard and approved. D. A. Williams of Kansas City presented the report of Mr. Woodring of Kansas, who at the Milwaukee encampment secured from the G. A. R. resolutions indorsing the claims of military telegraphers for Congressional recognition. The president appointed Messrs. W. B. Wilson of Philadelphia, H. W. West of Chicago and D. A. Williams of Kansas City a Committee of Ways and Means to conduct the business before Congress. The morning session then adjourned and nearly all present accepted the kind invitation of Superintendent Porter, of the Kentucky and Indiana Bridge Company, to take a trip over the magnificent cantilever bridge to New Albany. On the return of the party Mr. James D. Reid was found in waiting, having arrived during the absence of the delegates. He was roundly welcomed and considerable emotion was exhibited by some of the onlookers to see the meetings of Mr. Reid and Col. Taylor, who oblivious of their surroundings embraced each other most affectionately. The Old Time Telegraphers Association met in business session at 2.30 with President Taylor and Secretary Dealy in their respective chairs. Vice-President Day K. Smith, of Kansas City was absent. President Taylor's address, which was one of the best heard by the organization, will appear later.

Singularly appropriate at this time, in view of the ninth annual meeting of the United States Military Telegraph Corps at Louisville, Ky., Sept. 11th, 12th and 13th, is the publication in the *Century* magazine for September, of an article by J. Emmet O'Brien, "entitled 'Telegraphing in Battle.'" It is written in a most entertaining style and we cannot help expressing regret that limited space will not allow a more extended review of an article that should be read by every telegrapher.

"Before 1861," says Mr. O'Brien, "the value of the military telegraph had not been demonstrated. Crude experiments had been made, with poorly equipped lines, in the Crimea, in India, and by France, Spain and Italy in different campaigns, while the Germans possessed a distinct military telegraph organization as yet untested; but it was on the very route where Morse's first message, 'What hath God wrought!' announced the benefits of his invention to the arts of peace that the telegraph was to begin its first practical use in war." * * *

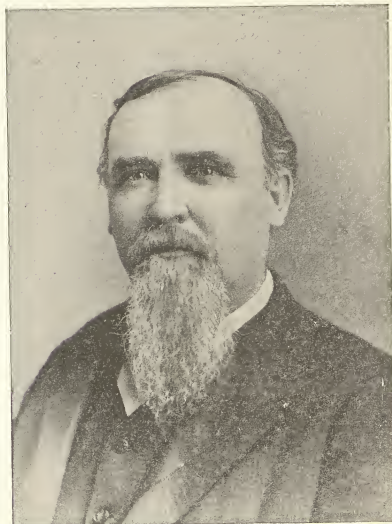
"The names of the four pioneers of the service were David Strouse, D. Homer Bates, Samuel Brown, and Richard O'Brien. Strouse soon succumbed to the hardships of the new service and went home to die; he sleeps by the Juniata. Of the three others, Bates served at the War Department and Brown and O'Brien at the front throughout the war. Thus informally began the career of the corps, which grew to number more than 1,000 experts, which constructed 15,000 miles of line in the field, transmitted millions of important dispatches, regulated the movements of distant armies, as those of Grant, Sherman and Thomas, and, in short, made it possible to move vast forces as a unit over a wide territory."

That the military telegrapher was frequently exposed to great danger is shown in the following paragraph:

"At Great Falls, an outpost on the Maryland side of the Potomac, the pickets were one day withdrawn, and simultaneously the Confederates began to shell the telegraph office. As steps, porch and roof were successively shot away, the operator, Ed. Conway, reported progress to the War Department, adding that his office would 'now close for repairs,' and withdrew with his instrument as the enemy crossed the river.

"With McDowell's advance to Bull Run, in 1861, lines were extended to Alexandria, Fairfax Station and Fairfax Court House. Aided by a line of couriers, the progress of the first battle of Bull Run was reported to the War Department by operators at the front, who were among the last to leave the field.

"They soon became veterans, sharing the dangers and privations of the troops, keeping up communication night and day, and faithfully guarding the important military secrets intrusted for transmission."



CHAS. E. TAYLOR, PRESIDENT OLD TIMERS' ASSOCIATION.

Most vivid is the Newport News operator's terse description of the famous encounter between the Merrimac and Cumberland. "The Merrimac," he telegraphed, "steers straight for the Cumberland." "The Cumberland gives her a broadside." "The Merrimac keels over." "She seems to be sinking." Then, after a pause, he wired "No; she comes on again." "She has struck the Cumberland and poured a broadside into her." "God! the Cumberland is sinking." Another pause and then: "The Cumberland has fired her last broadside." The historic combat between the ironclads the day following was similarly bulletined by the same steady hand from Newport News. "A new era was begun," says the author, "by the appointment of Colonel Anson Stager as General Superintendent of all military telegraphs with Thomas T. Eckert, afterwards Assistant Secretary of War, in immediate charge of the Department of Virginia and North Carolina and later with other competent telegraphers in

charge of the departments of West Virginia, Ohio, the Cumberland, Missouri, Tennessee, the South and the Gulf." In his usual happy style the author describes how "at Cherrystone, Eastville, Cape Charles, and northward the military telegraphers enjoyed a holiday, faring on luscious oysters, shooting wild ducks, lazily riding with a cavalry escort over the line, wherein was just sufficient danger from guerillas to give zest to life; while across the bay at the front the boys were working their instruments under fire in the trenches around Yorktown, keeping McClellan in constant communication with his generals and with Fort Monroe and Washington. * * * Before Yorktown the operator in the clouds telegraphed to headquarters the position of Confederate intrenchments and the effect of our fire, assisting to regulate the range of our guns."

The importance of the telegraph in battle is further illustrated at Williamsburg, Fair Oaks and in the Seven Days' fighting. "At Gaines's Mill, Porter obtained reinforcements at the critical juncture through the promptness of his operator who tapped the wire as our line of battle receded, and transmitted the necessary dispatches under a heavy fire, which killed several of his mounted messengers."



WM. J. DEALY, SECRETARY OLD TIMERS' ASSOCIATION.

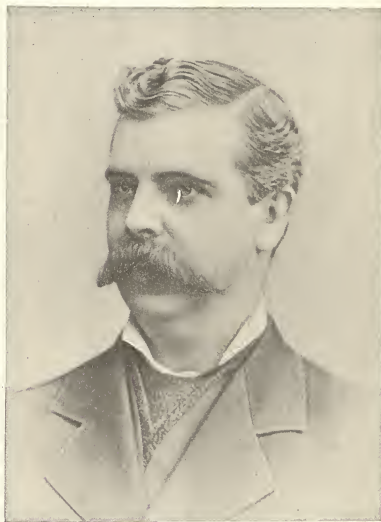
"At Norfolk, in 1862," he says: "the chief operator was offered by a committee twenty thousand dollars in gold, the freedom of the Confederacy, and passage to England by blockade runner if he would anticipate a telegram expected from Mr. Lincoln granting a reprieve to a citizen condemned for shooting a Union officer. The offer was made on the day preceding that fixed for the execution and was indignantly rejected."

"During 1862 nearly four thousand miles of line was built over the wide territory occupied by our forces. Of this nearly half was taken down or abandoned as the necessities of the conflict dictated; over a million important telegrams were transmitted."

In the retreat of Banks from Strasburg both his telegraphers fell into the hands of Jackson. "One of them," it is related, "while detained at Winchester to send important messages after our rear guard had passed, finding himself surrounded, destroyed his dispatches, broke his instruments and surrendered."

In Pope's Virginia Campaign, of three weeks, after the wires had been destroyed the telegraphers plunged into the work of reopening communication. This was attended with great hazard. "The field operators with

Pope, too, finding their usual occupation gone, became independent scouts." * * * The earliest advices of the second battle of Bull Run, like those of the first, were given by the operators, two of them riding direct from the battlefield to the nearest line and telegraphing their own description of it to the President, who personally thanked them by telegraph. In such hazardous work a number were wounded or captured." Later in the war in the attempt to open for Sheridan the line via Manassas Gap road to Fort Royal, a railroad and telegraph party while proceeding by locomotive were ambushed and five of them killed. In the Fredericksburg campaign three of Burnside's operators "were captured at their posts, one of whom escaped by his wits, and the others joined the considerable delegation of the corps, already in captivity, where they suffered the usual horrors of Libby, Belle Isle, and Andersonville, and whence they communicated by many ingenious devices with their friends. A brass button by the hands of an exchanged prisoner would contain a cipher dispatch on tissue paper. A ring carved from



JAMES E. PETTIT, SECRETARY MILITARY TELEGRAPHERS' ASSOCIATION.

bone and marked with a few Morse characters told us of our captured comrades. "A swift glance southward and westward, without regard to chronological order, may indicate the value of telegraph in other fields than the Potomac."

General Palmer credited the telegraph with having apprised him of the approach of Pickett's force against New Berne in February, 1864, and with enabling him promptly to concentrate his forces to meet the attack.

"Three of his operators died of yellow fever. Plum says: 'On the pay-rolls, which alone indicate that these men were in the service of their country, is written opposite their names, "Discharged." An eternal discharge, indeed.' Yet that epitaph comprises all of rank, reward, or pension ever tendered an operator of the military telegraph, or his family, by the United States."

Speaking of the military telegraph service in South Carolina, the writer says: "It was peculiar in the preponderance of sub-marine cables connecting the sea

ELECTRICAL NOTES.

Ocean tides as well as waterfalls are to be brought into use for electrical purposes.

An electric drill greatly facilitated the cutting of the steel bolt-heads in the Boston's planking.

An electric battery for firing shot into hard ore has been introduced. It can fire sixteen shot simultaneously.

A company is about being formed in Baltimore for operating a system of telegraphing to and from moving railroad trains.

An incandescent lamp, known as the Backstrom lamp, and in use abroad, has a filament of carbonized silk of high resistance.

The break in the New Zealand submarine cable has again raised the question of duplicating telegraphic communication with Europe by a more secure route than the one now in use.

Bridges moved by electricity are among the most interesting features of the Paris Exposition. They run on overhead supports, and carry visitors about the hall in large numbers.

It is said that with the exercise of ordinary care each strand of a cable may be united to that of another, end to end, by the electric welding process, so that the joint is practically imperceptible.

An electric reading lamp, fitted to railway carriages on the Southeastern line in England is among the latest novel applications. It is on the "drop-a-nickel-in-the-slot" principle. A penny's worth of light will last a half hour.

A simple pattern of an incandescent lamp lately appeared in Liege. It consists of two horizontal rods of copper, placed about four millimeters apart. A thin pointed rod of carbon, placed vertically, rests on the copper rods and forms a bridge between them.

ATLANTIC CABLES SNAP.—Both of the Western Union cables have snapped asunder in twenty fathoms of water, just off Flemish Cape, close to the American coast. The company, however, is sending business over the Anglo Company cables. This break is a very serious affair, since it leaves the Western Union absolutely without any direct cable connection. It is the first time since they were laid that both the cables have snapped. To make matters worse the dock strike has prevented the telegraph steamer Faraday from going to sea with a new cable to splice the breaks. This delay means much, for, under the most favorable conditions, it would probably take at least a month to repair the damage, and if it is not done before November the work may have to be delayed until next Spring. The cost of repairing the cables will be over \$7,500 a day from the time when the Faraday sails. When, in addition to this, one takes into account the loss of the great volume of commercial and press business which usually goes over the Western Union lines, it will be seen that the accident is a very expensive one for the company.

BELL TELEPHONE STOCK.—At a special meeting of the Bell Telephone Directors, Sept. 12, at Boston, the act of the Legislature authorizing the increase of the company's stock was accepted, and it was voted that the capital stock be increased from \$10,000,000 to 12,500,000; that the number of shares be increased from 100,000, to 125,000, the stockholders to be entitled to take additional stock in the proportion of one new share for every four shares now held by them.

Edison's portrait is on every wall in Paris, and in nine out of ten of the newspapers.

THE COMMERCIAL CABLES BIG HIT.—General Manager George G. Ward, of the Mackay-Bennett Commercial Cable Company, felt particularly proud September 9. The Commercial Cable Company had scored another brilliant triumph in transmitting news from London of the great Searle-O'Connor sculling race. And the sporting public to a man registered a silent vote of thanks in favor of the management of this most excellent service. The Commercial Cable bulletin of the Searle-O'Connor race were received in Montreal, Toronto and New York twenty-five minutes in advance of other cable news of the race. Mr. Ward received several messages from Montreal and other Canadian papers thanking him for the excellent service of the company.

THE WESTERN UNION DIVIDEND—Sept. 11 the Western Union directors declared the regular quarterly dividend of $1\frac{1}{4}$ per cent. The statement for the quarter ending Sept. 30 estimates the net revenue at \$1,750,000, the largest in years, and leaves a surplus after paying dividends of \$402,015. The total surplus is \$9,074,016.

Mr. J. B. Sabine contributed an excellent article on the subject of exempting building associations from taxation, in *Home Seeker*, of July 13. It is an exhaustive and convincing review of the whole subject, and reflects credit on the author as a master of the subject.

Mr. Ed. F. Guzman, business manager of the *Inventive Age*, of Washington, D. C., gave us a call a few days ago. This journal is a new one and is meeting with much success.

An office boy recently asked one of the chief operators for a cork with which to stop the electric light from leaking. N. B. He had only been in the service three hours.

A catalogue of Edison lamps of low voltage has been issued by the Edison Lamp Company, of Harrison, N. J., copies of which can be obtained upon application.

Mr. W. H. Hartney, formerly of the C. R. of N. J., is making a success of his general ticket office which he has opened at 1420 Broadway.

Mr. F. W. Jones, assistant general manager and electrician of the Postal Telegraph Co., has been confined to his residence by illness.

Mr. A. J. Walker, of Philadelphia, Pa., has been appointed manager of the W. U. office at Medicine Lodge, Kansas.

A plug in a box may not appear quite so ornamental as one at the key but it is often more useful.

Mr. Sol. Palmer, superintendent construction W. U. Tel. Co., St. Louis, Mo., was in town last week.

Mr. S. J. Pryor has returned to New York after a short sojourn in Europe.

DIED.—At his residence, in Brooklyn, N. Y., on April 25, 1889, Thomas P. Bladen. "Tom" Bladen, as he was familiarly called, and known, by his many friends and acquaintances in the telegraph service, was one of the oldest employees of the Western Union Co., having been connected with the auditing departments of that company, and of predecessor companies amalgamated with it, almost continuously for nearly 40 years. The beginning of his connection with the telegraph service was in 1850, when he entered into that of the Magnetic Telegraph Co., with which he continued, until its amalgamation in 1859 with the American Telegraph Co. With the latter Company he then continued until its amalgamation in 1866 with the Western Union Telegraph Co., with which he continued (with the exception of a few years prior to 1873, when he was treasurer and auditor of the International Ocean Telegraph Co.) until his death. He was honored, and is held in affectionate remembrance, by all who knew him.

AN OPEN LETTER TO THE MEMBERS OF THE
NATIONAL ELECTRIC LIGHT ASSOCIATION.

I am not surprised that the electrical journal which has, for some time past, been conspicuous for its lagging pace, should have found my communication of the 16th inst. "so shallow" as to require further consideration before publication; but no one who prides himself upon his "journalistic manhood" should intentionally misquote.

It may not now be out of place to set before those who wish to form a correct judgment of the conduct of the association, a fact which will perhaps explain the animus of the recent personal attacks, and show that the attempt to use the association for personal ends did not come from your president.

Prior to the reception of the report of the committee on nominations and place of meeting, and after the names suggested for the next executive committee had become known, a member of the association having a grievance against one of the nominees, protested against his preferment and *advised* me that unless his name was stricken from the list the next convention would be held in St. Louis. I declined to interfere, answering that I saw no connection between the nomination of the gentleman in question and the place of meeting, and informing him that the whole matter was in the hands of the nominating committee and must be passed upon by the association in convention. Confident that the large majority of our members do not favor moving the association through political wire-workers, or prostituting it to personal gain or the punishment of personal enemies, I feel sure that had I chosen to take the floor and, by descending to personalities, sacrifice the feelings of a few, the first vote on the meeting place would have been different.

I am charged with inconsistency in that upon one day I said, "We certainly could not legislate members out of the association," and upon the next but one decided that the new constitution was adopted. I still maintain that central station men could not vote associate members out of the association. But when such movement originated with the associate members, when the motion to accept came from an associate member, when the motion was carried unanimously by a house at least two-thirds associate, and was immediately followed by a motion made and seconded by associate members to appoint a committee on by-laws, all charge of inconsistency must fall. Had the proportion of active and associate members been reversed, and had the motions above referred to come from active members and been carried by them, notwithstanding the protests of associate members, the charge of inconsistency would be just.

I will pass the statement that I have used the association for my personal advantage with the observation that the decision upon the adoption of the new constitution was first made upon a question foreign to the place of meeting, and that the movement to convene in Kansas City did not originate with me, nor can a convention held there in any way assist my private fortune or those of the companies which I represent. We have no advertising or subscription lists to maintain, or chattels of any kind to sell. Mr. Rhodes, Mr. Gilbert, Mr. DeCamp, Mr. Morrison or any of the purely central station men who have entertained the association will doubtless testify that the balance is heavily against profit and loss.

My action in relinquishing the chair on appeal from my decision seems to have been generally misunderstood. While I might have retained it by parliamentary rule, I chose to follow custom and at the same time avoid deciding against a personal friend. Knowing that the work of the convention was not complete I expected to resume the chair after the decision upon the appeal. As I could not hear the conversation between the chairman and the

secretary as to the next order of business, nor the motion to adjourn, no one could have been more surprised than I at the abrupt adjournment. Far from being indifferent, I refused to recognize it as *sine die* until forced to do so by the record of the secretary, and by parliamentary law.

In conclusion, I would suggest that the interests of the association cannot be furthered by personal attacks or by general charges unsubstantiated by proof of record. My only desire is, that the facts as shown by the secretary's minutes shall be the basis of judgment upon the work of the Niagara convention.

EDWIN R. WEEKS,
President.

KANSAS CITY, Mo.,
August 28, 1889.

THE PACIFIC CABLE. We published in a recent issue the official report of the survey recently undertaken in the Pacific Ocean by H. M. S. *Egeria*. We understand, on good authority, that so far as the survey has gone the result is regarded with considerable satisfaction by those who look forward to the early establishment of a cable route from British Columbia to Australasia by way of the Pacific Ocean. There is nothing, it appears, in the features of the sea bed so far reported upon that need present any difficulty; while the depths are not excessive on the route likely to be selected. Moreover, it transpired at the proceedings of the Colonial Conference that coral reefs are only injurious to a cable when found at or near the surface of the water, and liable to cause friction in the neighborhood of the cable. In the case of the route surveyed in the Pacific Ocean there is no evidence as yet of any coral reefs which are likely to present obstacles in this respect. The main object of all concerned should now, of course, be to expedite the completion of the survey.—*London Electrical Review.*

TYPE-WRITING.—On the 17th inst., at the International Shorthand Congress now sitting in Paris, one of the English delegates, Miss M. P. Ellis, at the end of some remarks on the value of type-writers for transcribing shorthand notes, demonstrated the speed of the bar-lock type-writer, which machine she now uses, by allowing herself to be timed by the committee. At the conclusion of the test it was announced that Miss Ellis had written at the high speed of 135 words per minute, thus beating the record of 126 words per minute done on the caligraph by Miss Osborne and 123 on the Remington by Mr. McGurrian at the contest for the championship of the world, held at Toronto in November, 1887. Special attention was drawn to the even quality of the writing, though written at such a remarkable speed.—*London Electrical Review.*

BLEACHING BY ELECTRICITY.—*Industries*, of London, gives a description of the Hermite process of bleaching by electricity: "By the passage of the current through the liquid, the magnesium chloride and the water are simultaneously electrolyzed."

Copper telegraph wire is replacing the other along the Pennsylvania Railroad, and an operator tells the West Chester *News* that it is lighter, more durable, carries a heavier current of electricity, and holds less sleet.

It is said that the president of France almost lost his job for not going to the station to meet Thomas A. Edison, the great American inventor, on his arrival in Paris, so angered were the people of that Republic.

A very notable point in the economics of electricity as employed for purposes of light and power is the fact that none of the improvements has rendered any of the original electrical apparatus less efficient.

The electric lighting at the lighthouse on Cape de la Heve in France is generated from a motor which is run by the wind.

CONTINUED FROM PAGE 5.

islands, and in the exposure of the operators on Morris Island and vicinity to the fire of the Confederate batteries during the long siege of Charleston. On one occasion two of our men were up alternate poles stringing a wire which had just been cut by a shell when another well-aimed shot struck the pole between them and brought poles, wire and men in a tangle to the soft sand. * * *

"In September, 1863, a Union operator named Forster tapped the Charleston and Savannah line near Pocatigo and sent information to Generals Gilmore and Terry, that enabled them to foil a concerted attack by the enemy. Forster was captured on the third day and died in prison.

"When Rosecrans was defeated at Chickamauga and retreated to Chattanooga, where Grant sent him timely aid; and in the concentration of Sherman and Hooker with Thomas, which culminated in the victory of Chattanooga, the telegraph was of incalculable service.

"About this time Longstreet besieged Burnside at Knoxville and Grant sent Sherman swiftly to the rescue. Plum says: 'After Grant had driven Bragg from Missionary Ridge he received despatches from the advance office at Tazewell, notifying him that Burnside could not hold out longer than December 1. Secretary Stanton telegraphed for Colonel Stager to "come to the key." Stager had retired, but an instrument by his bedside awakened him. Stanton in Washington asked Stager, who was in his bed chamber in Cleveland, O., to forward news to Burnside by the most trusty means. The colonel instantly called up the chief operator in Louisville, Ky., and the latter the operators at four separate points nearest to Burnside. Thus it happened that in the dead of night four telegraphers, each with a cipher message notifying Burnside of the approach of Union troops, started on their perilous journey from four separate points.' Some of them reached Burnside, and he held out until his army was saved. The episode has not been immortalized nor its heroes rewarded.

"Taking up the electric thread with the Army of the Potomac, in 1864, Badeau attests that when Grant crossed the Rapidan in the final campaign he moved synchronously, by telegraph, Sherman in Georgia, Crook in the Valley and Butler on the Peninsula, and received responses from each before night, while all the remaining forces of the Union were placed on the alert by the same agency. * * * General Eckert had at this time perfected a field telegraph system somewhat on the mountain howitzer plan. Reels of insulated cable, strong enough to resist cannon-wheels, were carried on the backs of mules paying out the wire over the field, where it was raised on lances or trees, while compact portable electric batteries were transported in ambulances constructed for the purpose. This system was found efficient on the battlefield and at Spottsylvania Court House, where at one time operators and cable were within the enemy's lines, and in subsequent battles it was thoroughly tested.

"In Butler's advance on the Petersburg and Richmond Railroad, 7th of May, a line was carried along with the column to within sight of that road, and worked until Beauregard struck us at Drewry's Bluff, on the 16th, when General Butler ordered his chief operator to 'bring the line within the intrenchments.' In these trenches, one night, Maynard Huyck was awakened from sleep, not by the familiar voice of his instrument, but by the shriek of a Whitworth bolt, a six-pound steel shell, which passed through the few clothes he had doffed, then ricocheted and exploded beyond. Congratulating himself that he was not in his 'duds' at the moment, the boy turned over and slept through the infernal turmoil of an awakening cannondade until aroused by the gentle tick of the telegraph relay. "During the siege of Petersburg every salient point on the front of the armies of the Potomac and James was covered with the wires radiating from Grant's headquarters at City Point."

That the result of battles sometimes hung on the continuity of a slender wire was shown on March 25th, 1865, when "the cutting of the wire by Gordon removed Meade from control, placed Parke in command, gave him three corps and empowered him to assault, while its repair restored Meade, regulated the assault, enabling Grant to use his whole force as a unit, and secured an advance by our forces, all within the space of a few hours. Thus were forts lost and retaken, and thus were battles won by the aid of the telegraph! Its success in this emergency was due to the field system.

"It may surprise the reader to learn," says Mr. O'Brien in conclusion, "that beyond the commendation of Lincoln, Stanton, Grant, Sherman, Sheridan, and all the higher officers, the military telegraphers—except a few heads of departments, who were commissioned and promoted from captains up to brigadier-generals—have never received any recognition for their great services. Though suffering captivity, wounds, and all of the hardships of the troops, the members of the corps cannot tell their children that they were soldiers, nor hail their brother veterans of the Grand Army of the Republic as comrades. They were merely 'civilians' who faithfully performed dangerous and harassing military duty with boyish enthusiasm, and some of whom have survived to learn that republics are ungrateful, or at least, forgetful. Uncle Sam, who has been more generous to his veterans than any potentate of history, has forgotten them. Their widows and orphans receive no pensions.

"Once a year the survivors of the corps from all parts of the Union meet to renew old acquaintance, cemented by the electric spark over leagues of wire. Many of them never met in the field, but they knew each other well by telegraph, and can still recognize the touch of a comrade's hand on the 'key' a thousand miles away.

"The experience of this country, which demonstrated the value of a military telegraph, induced the immediate organization of such corps in all European armies."

The following gentlemen were then unanimously elected as old timers: Messrs. J. H. Lounsbury, J. F. Cleverdon, George E. Holbrook, New York; W. W. Burhans, Washington; W. A. Harris, New Haven; A. J. Porter, Louisville, and James Faulkner, Hoboken. The president then appointed R. B. Woolsey of Terra Haute, George M. Dugan of Jackson, Tenn., and Harry W. West of Chicago a committee to confer with the Committee of the U. S. Military Telegraph Corps as to the time and place of the next annual meeting. Kansas City was selected as the place and the second week in September 1890 the time. Day K. Smith of Kansas City was elected president, and Barney Hughes of Memphis, vice-president. W. J. Dealy of New York was re-elected secretary and treasurer amid loud applause. The meeting then adjourned to meet at 7.30 o'clock the following evening at Mammoth Cave.

The military meeting adjourned to meet at the same place. The reason for this unexpected adjournment was due to the liberality of the Commercial Club, one of the most remarkably successful organizations of its kind in this country, who desired to show the telegraph boys the sights. Under the immediate direction of Chairman Bitman and an able corps of assistants the entire party entered carriages and were escorted over a large portion of the city. At the tobacco manufactory of Mr. Harry Weissinger, where the first stop was made, the guests were treated to liquid refreshments and each allowed to help himself to a sample of tobacco which was displayed at an adjoining table. The next stop was made at Phenix Hill, where cool, fresh lager in abundance was placed on tap for all. From there the line led through the residence portion of the city to headquarters, where all alighted and quickly dispersed to get themselves in readiness for the banquet.

The banquet was an elaborate affair, the dining room being beautifully arranged and decorated. All along the main table, from one end to the other, miniature telegraph poles had been

placed. They were in exact imitation of the cross-arms which support the wires of the country, except that their bodies were wound with ivies and evergreens, representing climbing plants. Four small lines extended from one end to the other, and there were switch-boards and keys at both the head and foot of the table. Rare tropical and hot-house plants and cut flowers in various designs laden the atmosphere with the sweetest of odors, while the blended colors charmed the eye. When the doors were thrown open the strains of "My Old Kentucky Home" greeted the guests. It was rendered on the cornet by Mr. Robert J. Elliott, Jr., accompanied by Mr. E. J. Elliott on the piano, which had been especially placed in the dining-room for the evening.

All were seated, with President W. R. Plum, of the Military Corps, presiding, and James Douglas Reid, of New York, and Judge J. B. Kincaid, on either side. The following were present: J. H. Lounsbury, J. H. Emerick, R. J. Hutchinson, Joseph Knittle, J. J. Calahan, John F. Cleverdon, R. G. Stephenson, of New York; T. J. Batman, Judge Joseph B. Kinkead, Gen. D. C. Buell, Gen. Basil Duke, of Louisville; A. L. Eugene, of Bridgeport, Conn.; W. R. Plum, of Chicago; Col. Charles E. Taylor, of Frankfort, Ky.; James D. Reid, of New York; E. Rosewater, of Omaha; Charles H. Kahler, A. J. Porter, A. L. Eggleston, Louisville; William B. Wilson and Donald Wilson, of Philadelphia; Barney Hughes, of Memphis; D. A. Williams, of Kansas City; W. H. Johnson, M. J. Burke, Louisville; Edward Delaney, George E. Holbrook, Lant Jones, William L. Ives, New York; Sol. Palmer and Sidney B. Fairchild, of St. Louis; John Brant, Thomas Finnigan, Theodore B. Fullon, New York; K. McKenzie, Jackson, Tenn.; J. Newton Crittenden, Rozel Weissinger, Donald McDonald, J. F. Ludwig, E. O. Hewitt, Louisville; T. P. Scully, New York; W. L. Briggert, Jeffersonville, Ind.; R. A. Taylor, Terre Haute, Ind.; Charles Newton, Frankfort; R. B. Woolsey, Terre Haute, Ind.; C. Smith, J. E. Pettit of Chicago; W. J. Dealy, New York; Geo. M. Dugan, Jackson, Tenn.; Captain Irwin Dugan, Louisville; Mrs. G. M. Dugan, Miss Kate Elliott, Mrs. C. Smith, Mrs. W. R. Plum, Mrs. J. E. Pettit, and Miss Kate Jansen, of Louisville.

Col. Taylor of the Old Time Telegraphers' Association touched the key and silence prevailed as he slowly ticked the request for prayer from James Douglas Reid. That patriarch of the assemblage responded in a vein which almost brought the tears to many eyes. The first course was then set before the guests, and Miss Katie Elliott was requested to sing. She did her wide reputation as a singer of great power and sweetness justice.

A statement had been made by wire that Col. Will S. Hays, author of "Mollie Darling," "Old Log Cabin in the Lane" and a hundred other well-known melodies, was present. A motion was made by wire that he sing, and the "ayes" were the votes of those who favored it. Col. Hays responded and sang "Way Down Yondah in de Corn-field."

The head waiter had a good deal of trouble to keep his sable assistants from breaking into an old-fashioned hoe-down when they heard this. Col. Hays was vociferously applauded, and responded to the encore with the following poem, which, he said, was hurriedly written during the evening for the occasion:

We have met to-night,
Let our hearts be light
And filled with pleasures and joys;
Let us smile and laugh
At the telegraph,
For we are the old-time boys.
We've served our time
From our boyhood's time
And we've come through manhood quick,
But we'll sit at the table
As long as we're able
And list to the tick-a-tick, tick.

We have worried our brains
O'er the running of trains,
And we've wired the news to the press;

Sent messages glad
And words goods and bad,
And forwarded deeds of distress.
And our work we'd pursue
On the telegraph new,
And thought we were doing it quick,
When we played with the wire
And set it on fire
As we heard it go tick-a-tick, tick.

Now invention has come
And improved the thing some,
And it doesn't make noise or much "fuss,"
But it keeps its old name
And it goes on the same
With the "boys" as it used to do us.
But soon other faces
Will fill all our places,
Other fingers the instrument click,
And we'll be laid away
In the cold, silent clay,
Where we won't hear the tick-a-tick, tick.

So as man and as brother
Let's love one another,
Be happy and honest and brave,
Till we each lose a "sit"
Or we all have to quit
And keep our hand still in the grave.
So, with hearts gay and light,
Let's be happy to-night,
And hope that we won't get so sick
As we fill up the glass
And the gay hours pass
That we can't hear the tick-a-tick, tick.

Mr. Robert J. Elliott next played a cornet solo, and was applauded most heartily.

The President said that like Topsy the United States Military Corps was not born, but grew into great proportions from originally five men, and he called upon one of those five men, Hon. William B. Wilson, of Philadelphia, to respond to the toast "The Military Telegrapher." Mr. Wilson gave the main credit of the corps' organization to Col. Thomas A. Scott, of Pennsylvania, and gave a short review of the life of the organization. He spoke of Kentucky, dear to Pennsylvania because it was first inhabited by a Pennsylvanian, Daniel Boone, and the religion of Boone and Pennsylvania were responsible for the good people of Kentucky. Referring to Kentucky, Mr. Wilson said:

"Where the blue grass grows you find the highest development of vegetable life, and based on that is reared a perfect structure in the physical, mental and moral properties of a perfect man. It is for this reason that Kentucky is noted far and wide for her able men and beautiful women, fine horses and pure whiskey—the four great powers that have been important factors in the development and advancement of the Northwest Territory. From it has sprung the intrepidity of a Boone, the eloquence of a Clay, the chivalry of a Breckenridge and the wit of a Prentice, and made Kentucky a garden spot for the gods to envy."

Referring to his companions of the war time key, Mr. Wilson closed by speaking pathetically, as follows:

"The hairs are getting grayer, the wrinkles deeper, the alacrity of step feeblier, and sadder still, the ranks are growing thinner. This seems to be the common fate of all classes who band together to perpetuate the glories or achievements of the past, and I see no reason why we should not recognize it as applicable to our societies, and whilst the tears of regret drop over our cheeks for those who have gone to the better land, we should not drive away the smiles of gladness that encircle our eyes as they beam upon the faces of old friends who living cluster around the board of this reunion."

Several letters were read from some of the old-time telegraphers who are in Europe and scattered about the world, and with a final glass and a strong grasping all hands around, the company, led by Miss Elliott, sang "Auld Lang Syne," and the banquet of 1889 was at an end.

WHY SHERMAN SHUNNED AUGUSTA.

A TELEGRAPHER CLAIMS TO HAVE SCARED THE GREAT COMMANDER.

[From the Charleston (S. C.) News.]

An old resident of Columbia tells me that he does not put much faith in the recent declaration of Sherman, the Vandal, that he omitted a visit to Augusta during his march through Georgia because, for strategic reasons, he did not care to go there.

The old resident says that quite another story was told in Columbia after the war by Sherman's officers, and was current in Augusta besides. He himself had been assured of its correctness by a prominent Federal officer. The story was, that while Sherman was marching towards Augusta, with the purpose of taking that city, he directed one of his army telegraphers to "tap" a wire leading to Augusta and ascertain something about the military strength of that city.

It is well-known that work of this kind was frequently done during the war. It is not as generally recognized, but is nevertheless an absolute fact, that operators who have been working on the same line find it as easy to recognize the touch of a fellow-operator upon the telegraph key as one friend does to recognize the voice of another. The General's operator "tapped" the line and entering into a conversation over the wire with an operator in Augusta, endeavored adroitly to "pump" him as to the importance of the Confederate force in that city.

The Augusta man knew that the enemy was somewhere down the line and thought that he recognized a stranger at the key. Without, therefore, revealing his suspicions, he told a fine tale of the strength of Augusta's garrison. His information, apparently given in good faith, was detailed to Gen. Sherman, and that warrior, desiring rapid transit and plunder more than battles and glory, gave Augusta a wide berth and took the route which promised the least resistance.

Electric lights are said to be as good as policemen, and they are no doubt very useful in protecting particular properties within the immediate range of their rays of light. But what becomes of the burglars and sneak thieves? They surely are not reformed by the electric lights, but simply change their places of working. So also electric lights change immoral neighborhoods for the better, but they do not necessarily promote morality. They are useful adjuncts to other means of preventing or exposing crime, but nothing more.

A Brazilian inventor, to whom a patent has been issued, proposes to remedy the annoyance suffered from the shaking of dishes upon the tables on shipboard by means of an electric contrivance. His idea is to use an electromagnetic device. To the under side of the dishes will be attached small pieces of iron, and on the table will be laid long strips of soft iron to which wires leading to a battery will be connected. The use of this electro magnetic appliance will not mar the appearance of the tables, and certainly it should prove effective.

There are now in use in the United States more than 5,650 central electric stations for light and power. There are 210,000 arc lights and 2,600,000 incandescent lamps. There were fifty-nine electric railways in operation in March last, and eighty-six roads in process of construction. The increase of capital in electrical investments during 1888 was nearly \$70,000,000. These are very significant figures, and they point unmistakably to the course of future inventions and discoveries.

The Providence *Journal* says that there seems to be no difficulty about the electric current killing anybody who is not a criminal.

Additional proof that overhead wires ought to go comes from Cincinnati, where the local telephone company has brought suit against the electrical street railways asking heavy damages and an order from the Court requiring the railway companies to change their plant so that induction from the overhead wires may not interfere with the telephone service. Storage batteries in cars and telephone wires underground would speedily settle this difficulty; yet such a means of escape from the dilemma has evidently not occurred to the parties in interest. The prevalence of overhead electric wires is fast becoming an intolerable nuisance crowded cities.

London, after lagging strangely behind some little backwoods towns in America, is, at last, seriously to take up electric lighting. Three great companies, with a capital of over \$12,000,000, have taken contracts to light the main thoroughfares, and extensive plants are being laid for private consumers as well. The Board of Trade has fixed the maximum charge at 16 cents for a unit, which means 20 lamps of 16 candle-power for an hour or one ten-candle lamp for 30 hours.

Davain A. Henry, superintendent of construction for the East River Electric Light Company, at New York, was killed on 2d inst. at the company's works by receiving a shock from a 1,000-volt current. Henry had gone to the switchboard and mounted a ladder to fix some wires that were out of order. He incautiously placed his hand on a live wire and fell to the ground dead. He was only twenty eight years of age.

Jay Gould tells a reporter of the *Sun* that he thinks Postmaster-General Wanamaker favors the proposed scheme of postal delivery of telegrams. He adds that this scheme is not a new one by any means, and that it is believed to be "practicable and advisable." No other telegraph or post-office authorities are near at hand to speak in regard to the matter.

A telegraphic money order service has been established in Great Britain between eighteen of the principal cities as a part of the postal service. Payment of money is made at the post office on identification of the recipient, who gives the name of the remitter, as required in the transmission of money orders by mail.

In the line of electrical manufactures and supplies, light, power, etc., America leads the world, and is receiving the patronage of Europeans to a very flattering extent. Several new companies, with large capital, have recently been organized to still further control the markets of foreign countries.

The Darling Electric Locomotive which is being built by the New York Locomotive works at Rome, N. Y., is nearly completed. The motor will be placed in a day or two and the engine will be experimented with in Rome. The electricians look upon its success as certain.

A Chicago inventor has patented an electrical contribution box. If a button or piece of tin is deposited in the box a bell rings. Such a device will be very useful in Chicago. That city knows its own needs.

Electricity will kill at times. A Kentucky woman has just died of fright at the reflection of an electric light which she mistook for a ghost.

The French Government has taken formal possession of all telephone stations, despite the protests of the Telephone Company.

Thomas A. Edison, on his return to this country, will give his friends a phonographic account of his trip.

The Postal office at 234 Pearl has been removed to No. 231 Pearl street, which is a better location.

PHOTOGRAPHS OF PROF. MORSE'S BIRTHPLACE.

PRICE, 50 CENTS. POSTAGE PREPAID.

We have made arrangements to furnish anyone desiring the same, photographs of the house in which Professor Morse, the inventor of the electric telegraph, was born. The house is situated at 199 Main street, Charlestown, Mass. (Bunker Hill District, Boston), and bears an inscription to the above effect, which can be readily discerned in the photograph. As the house is old and likely to be torn down very soon, the opportunity to procure this valuable souvenir should not be delayed. Address The Electric Age Publishing Company, 5 Dey street, New York.

Although subscriptions amounting to 70,000 pounds have been secured in England, in all probability the direct cable between Great Britain and the Dominion of Canada will not be laid. The only reason the government would have for granting the company a subsidy would be that of securing direct cable communication, which has been accomplished by the Anglo-American Company lifting its cable at Newfoundland and splicing it with a new cable into Halifax. As this was done by express agreement with the British Government, it accounts for the refusal to grant the subsidy.—*Modern Light and Heat.*

Mr. S. D. DeShazor, for many years connected with the Southern and Western Union Telegraph companies at Petersburg, Va., resigned his position with the last named company, August 10th, to take charge of the Postal Telegraph-Cable Company's affairs at that point. He is the youngest manager in the State of Virginia, being only twenty-one years of age. Mr. DeShazor is an excellent operator and is also possessed of a good deal of business tact, and no doubt the Postal Company's interest will be well looked after under his able supervision.

The performance and reception by the New York Telegraph operators, to be given at the new Central Opera House, on Thursday evening, Oct 31, will be the last under Mr. Dixon's direction. The beautiful comedy of "Caste" will enlist the services of Harry DuSouchet, J. C. Vancura, J. M. Winder, Thos. Ashcroft and Miss Florence Miller. This affair will mark the opening of the above palace of beauty, which is certainly the handsomest place in New York.

Superintendent of an electric railway (to applicant for a position)—"What is your name?"

Applicant—"Wood, sir."

"You want to be appointed conductor?"

"Yes, sir."

"Can't take you, sir."

"Why not?"

"Electric experts say that Wood is a poor conductor.—*Texas Siftings.*

At the request of the Postmaster-General, the Secretary of War has directed the Quartermaster-General to instruct his subordinates to pay no more Government telegraph bills until the rates to be paid are furnished by the Postmaster-General.

One of the congratulatory messages that most interested Dr. Holmes on his eightieth birthday was from an entire stranger. It was telegraphic, and marked "Collect 90 cents."

Mr. Jules de Castro, managing director of the Commercial Cable Co., London, arrived in New York on the City of Paris.

The Western Union Telegraph Company has bought on the Port Royal & Western Carolina Telegraph Companies' plant.

CABLE STOCK INCREASED.—The Commercial Cable Company has filed in the office of the Secretary of State a certificate of increase of the capital stock of the Company from \$6,000,000 to \$10,000,000 for the purpose of taking up the debenture bonds of the Company, which would soon become due.

The following authorized agents of The Electric Age are responsible for the transaction of business pertaining to subscriptions, electrical books, or advertising: H. J. Jolley, 195 Broadway, New York; W. J. Anderson, C. P. R. Tel. Co., Toronto, Ont.; J. J. Seitz, G. N. W. Tel. Co., Hamilton, Ont.; David Adams, G. N. W. Tel. Co., London, Ont.; C. S. Loewenthal, W. U. Tel. Co., Chicago, Ill.; Jos. Laird, Postal, Chicago, Ill.; J. Vauier, Campbellton, N. B., Can.; C. L. Hallett, C. F. Ry., Port Arthur, Ont.; J. W. Thompson, W. U. Tel. Co., Nashville, Tenn.; A. V. Cutler, W. U. Tel. Co., Kansas City, Mo.; J. E. Janney, W. U. Tel. Co., Philadelphia; C. A. Stimpson, Postal Tel. Co., Philadelphia; W. A. Hazellboom, W. U. Tel. Co., Boston; D. Kearney, Box 343, Oil City, Pa.; F. B. Beach, W. U. Tel. Co., Detroit, Mich.; D. Urquhart, G. N. W. Tel. Co., Toronto; Frank Farrell, 532 Third st., Louisville; Geo. W. Spaid, W. U. Tel. Co., Savannah, Ga.; S. H. Riker, 218 Merriman Ave., Syracuse, N. Y.; R. W. Gillette, W. U. Tel. Co., San Francisco; Wm. Christie, Postal, Victoria, B. C.; F. L. Saunders, W. U. Tel. Co., Dallas, Texas; E. D. Williams, W. U. Tel. Co., Duluth, Minn.

The other day I was watching some men removing telegraph poles from the streets, and I remarked to a bystander, concerning a man who was on top of a tall, swaying pole: "That's a brave man." "Yes," he replied, "they are plucky fellows, all the linemen, but the most remarkable thing about them is their vision. A bee hunter has no better eye than a competent lineman. The city poles are high and the wires are far from the pavement, yet a lineman can walk at fair speed along the curb and follow with his eye a wire that he has been sent to repair, never confusing it with others, and detect the place where it has been crossed. Now, I suppose, the subways will develop a man with an organism so sensitive that by touch he can tell between which man holes the circuit is broken."

The committee appointed recently by the local chamber of commerce, to investigate the feasibility of laying an ocean telegraph cable from San Francisco, Cal., to Australia, has reported in favor of the project, and estimates the cost of a cable line from San Francisco to New Zealand, by way of Honolulu and Tutuila, at \$10,000,000. It is urged that the line would be a paying investment.

A well-known firm of New York recently handed a cablegram to the Direct Cable office, at 444 Broome street, at 10.05 a. m., for Bradford, Eng. The message was sent and reply received and handed to firm at 11.15 a. m. Considering the numerous retransmissions and the postal service in Bradford this record cannot be beaten. This is not an unusual occurrence with this company.

Postmaster-General Wanamaker's postal telegraph scheme possesses the unusual advantage of being fairly satisfactory in its general scope to both the public and the telegraph companies. The consummation of the project would be a large, proud feather in Mr. Wanamaker's hat.

George Gould, accompanied by his wife, sailed for Europe, Sept. 4, on the City of Paris. His father, Jay Gould, his brother Eddie, Gen. Eckert, and several of the officials and directors of the Western Union and Manhattan companies went to see him off.

United States Consul-General Sherman, at Liverpool, Eng., is an old U. S. Military telegrapher.

THE TELEPHONE CONVENTION.

At 11.45 o'clock, on Sept. 10, the annual convention of the National Telephone Exchange Association was called to order in the large reading room on the first floor of the West Hotel, Minneapolis, Minn., by President Henry Metzger, of Pittsburgh.

The members of the association form a solid looking body. Young men predominate, but there is a liberal sprinkling of the gray beards. There were about 75 gentlemen in the room when the president rapped for order. The first business transacted was the calling of the roll. Secretary Barney found the following companies represented:

Active Members—American Telephone & Telegraph, New York City; Bell Telephone, Buffalo; Bell of Philadelphia; Central District and Printing Telegraph, Pittsburgh; Central Pennsylvania Telephone and Supply, Williamsport, Pa.; Central Union, Chicago; Erie Telephone; City & Suburban Telegraph, Cincinnati; Central New York Telephone and Telegraph, Utica, N. Y.; Delaware & Atlantic, Philadelphia; Empire State Auburn Telephone & Telegraph, New York; Erie Telephone and Telegraph, Lowell, Mass.; Great Southern, New Orleans; Hudson River, New York City; Missouri & Kansas, Kansas City, Mo.; Michigan, Detroit, Mich.; Nebraska, Omaha, Neb.; New York and Pennsylvania, New York City; New England, Boston, Mass.; Ohio Valley, Louisville, Ky.; Pennsylvania, Harrisburg, Pa.; Rocky Mountain Bell, Salt Lake City; Southern Bell, New York City; Southern Massachusetts, New Bedford, Mass.; Southern New England, New Haven, Conn.; Wisconsin, Milwaukee.

Association Members—National Conduit Manufacturing Company, New York City; Standard Electrical Works, Cincinnati, O.; Western Electric Company, Chicago.

Honorary Members—American Bell Telephone, Boston; Bell, Montreal; Bridgeport Brass Co., Bridgeport, Conn.; A. G. Day, New York City; Thomas D. Lockwood, Boston, Mass.; George L. Wiley, New York City.

The report of Secretary C. H. Barney was presented. At the beginning of the year the roll of the association, the secretary said, showed 36 active, 5 associate, and 29 honorary members. The secretary made note of the death during the year of George L. Phillips, the first president of the association. The present membership was given as follows: Active, 34; associate, 6; honorary, 28. The resignation of the Sunset Telephone & Telegraph Company, of San Francisco, is in the hands of the secretary, the resignation being due to consolidation with the Pacific Bell Telephone Company. Clark B. Hotchkiss tendered his resignation as an associate member.

The secretary emphasized his request that the members of the association keep him promptly advised of any and all matters of telephonic interest. The income of the year past was \$2,025.37; the expenses being \$1,980.81, there being a balance of \$44.56 in the treasury.

Judge Atwater was then introduced by the president, and was received with much applause. He delivered an address of welcome on behalf of the city and the board of trade. He said he knew it was the feeling of all citizens that the association should be received with words of hearty welcome. He referred somewhat at length to the business of the association members, stating that no man could do business without the aid of the invention which the association represented. He said the city ought to feel honored when such a body of men appeared in the city of Minneapolis. He dwelt somewhat upon the absolute indispensability of the telephone. He was enthusiastically applauded.

President Metzger responded briefly, showing the appreciation the association had of the city in whose borders it met.

The report of the treasurer was read showing practically

the same data as given in the secretary's report above outlined.

The secretary then read a report of the executive committee, in which the main point of interest not before published was the recommendation that Mr. Barney be continued as secretary for another year at a salary of \$1,200. It was adopted.

An invitation was read from the Northwestern Telephone Exchange Company, of Minneapolis, proffering the association a ride about the city, to Minnehaha and to St. Paul, Thursday, ending with a banquet at the Hotel Ryan in St. Paul. An invitation was also received from the Minnesota Brush Electric Light Company to visit the Company's plant in Minneapolis, which was accepted.

The election of officers was then held for the ensuing year, resulting in the unanimous choice of the following:

President. W. D. Sargent, Brooklyn; vice-president, F. G. Beach, Chicago; treasurer, H. L. Storke, New York; executive committee, C. F. Cutler, New York; Charles H. Wilson, Chicago; H. M. Gifford, Louisville, Ky.; Levi Sprague, Lowell, Mass.

One member of the advisory committee was to be chosen and George M. Stone, Cincinnati, O., was selected.

The death of George L. Phillips, ex-president of the association, was referred to most earnestly by Mr. Tyler, of Connecticut, who offered resolutions on the death of his popular associate, which were adopted.

At the conclusion of the reading of the resolutions, a number of gentlemen spoke in words of the deepest feeling, attesting the great personal loss which was felt by the members of the association in the death of the ex-president. The resolutions were adopted by a rising vote.

It was decided to exclude the representatives of the electrical press, a majority of the members expressing the belief that it would be to the best interests of the association to prohibit the publication of the papers which were to be read during the meetings. This action was again reaffirmed at the following day's session.

In a paper on the subject of long distance telephoning, by Flemon Drake, of Omaha, he showed that the local conditions in the state whence he came were much more favorable to long distance telephoning than are the conditions in the eastern states. There were not so many lines, and hence not so much danger of induction. He advanced an idea that is likely to be generally adopted, which is that when a man rings central the operator makes the requisite connection and then allows the one desiring the interview to call the other party.

Prof. Wabner, of Berlin, who attended the meetings, and who is an expert, said there were 11,000 subscribers in Berlin, and this method of allowing the one desiring an interview to call up the other party was in universal use with the best results.

It was stated that Minneapolis would soon be connected with Chicago and New York by telephone. The line from New York to Buffalo was fully described. J. J. McCarty, of New York, read a paper on the subject also.

The delegates to the 10th annual convention of the National Telephone Exchange arrived in Minneapolis September 10th. The association was formed in Chicago in 1880, and was at that time, as now, composed of delegates from all the telephone companies, of which there were about 200. Since that time the companies have been consolidated to a great extent and there are probably not more than 100 at present.

Most all the delegates arrived in a special train, which left New York with a party of 60, including six ladies. At Chicago they were reinforced by 25 or 30 more members. From Chicago the train journeyed over the Chicago, Kansas City & St. Paul road, after a stop of several hours, during which time the eastern visitors were entertained at lunch by the Chicago Electric Club and taken for a drive around the city. The journey to Minneapolis was a lively

one, an impromptu minstrel show taking place in the smoking car, in which some of the elder and usually staid members of the party figured prominently. The object of the meeting is to promote an interchange of ideas upon important subjects.

The delegates and visitors were highly entertained by not only the Chicago but the Minneapolis electrical people, who saw that nothing was wanting to make the visit to the northwest one long to be remembered.

John Lugenbeel, a gray-haired old man, wants a place to earn a living. Mr. Lugenbeel was discharged by Sixth Auditor McConville four years ago, and has since been out of work. He was a telegraph operator years ago at Willard's, and it was he who transmitted the famous dispatch from the pen of John A. Dix: "If any man attempts to pull down the American flag, shoot him on the spot." It was he, and not General Butler, who first coined the word "contraband," and this occurred while he was a telegraph operator for the government during the war.

The above, from a Washington paper, tells a sad story. John Lugenbeel was one of Amos Kendall's lieutenants away back in the infancy of telegraphy, and for many years during the existence of the various telegraphic enterprises of Prof. Morse, Stephen Vail, Amos Kendall and other "old timers" whose early efforts contribute so much to the development of the great telegraphic system of to-day. Mr. Lugenbeel occupied various positions in Washington.

Years ago he retired from the telegraphic service and entered the employ of the United States Government in a clerical capacity. He continued to occupy a desk in one of the departments until the advent of the Cleveland administration, when he was thrown out of employment, old, feeble, and almost a century behind his early experience as a telegrapher—not a century in years, but in progress and modern appliances of which he knows nothing.

Some years ago he attained some undesirable prominence in Washington by having a United States Senator for a son-in-law, who did not reflect any great amount of credit upon the old government clerk. His name was Christianity, of Michigan, whose suit for divorce from the young wife will be remembered. Time brings many changes, but a change of this sort is a trial which is particularly saddening. The recital of the facts is sufficient without making it point a moral, which each reader can apply for himself or herself.

The annual meeting of the Michigan Postal Telegraph Company was held last week. The officers were re-elected. They are Albert Ives, Jr., president; Albert Ives, Sr., treasurer, and Geo. Farnsworth, secretary and general manager.

Heald's Telegraph College, in San Francisco, advertises to do everything under the Sun for any person who will learn telegraphy at their place. They claim a student can become a first-class operator without interfering with his educational studies.

The spirit of Izaak Walton has taken possession of the Central Cable office staff. Two or more fishing parties are organized each week and the interim is used in swapping entertaining fish stories.

R. W. Crews, of the Southern Postal Co., Raleigh, N. C., slipped down a pole in front of the office at that place, July 23, and severely injured himself by being caught on one of the spikes.

Mr. W. L. Stocking, of Meriden, Conn., has been appointed manager of the Postal office at Fall River, Mass.

Mr. F. N. Bassett, assistant general manager of The United Press, is enjoying a well-earned vacation.

TOM OAKMAN.

BY G. W. RUSSELL.

Continued from last issue.

When I met Tom that evening he appeared to be an entirely altered man. The sad, far-away expression had gone, a spirit of vivacity seemed to possess him; and digging me several times in the ribs he related the experience of the day, and said that those three words happening so strangely—"Love, Matrimony, Happiness"—seemed to him to have a significance that was only too plain. That evening while receiving from Chicago he introduced the words into four different messages where they did not belong, and only detected the fact by the check.

Look where he would the words seemed graven before him on the walls, on the desks, in halos above the electric lights and the sparks emitted from some distant transmitter seemed to express them.—"Love! Matrimony! Happiness!" Walking to his lonely bachelor apartments he passed a fire engine house and the alarm with its musical click said: "Love, Matrimony, Happiness." The distant pealing of a church bell spoke it, the ticking of his clock expressed it, and waking or dreaming the words controlled him and convinced him that an emphatic change of his course was demanded. He had been reckless of self, heedless of opportunities, improvident of the future. He had drank of the cup of pleasure and knew well the bitterness of its dregs, and as he tossed upon his couch he remembered Burns' allusion to pleasure in his Tam O'Shanter:

"But pleasures are like poppies spread,
You seize the flower, its bloom is shed;
Or like the snow falls in the river,
A moment white, then melts forever;
Or like the borealis race
That flits ere you may point the place;
Or like the rainbows lovely form,
Evanishing amid the storm."

Ah, Tom, you are caught in the toils. No more for you the solemn face, the sad mien. Naught but joy, boundless bliss and never ending delights.

Tom is now a regular and welcome caller at the young lady's home. He is deeply in love and is already engaged, and here we will leave them, gentle reader, hoping that after Tom has begun to realize his happiness, he will forgive me when I confess that the messages containing the words "Love, Matrimony, and Happiness" were bogus, and were fixed up by me for the express purpose of dispelling his gloom.

FIDELITY REWARDED.

LINEMAN JACKSON'S FAMILY PROVIDED FOR BY THE TELEGRAPH COMPANY.

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Mr. Jackson was employed as lineman, with headquarters at Derry, and was ordered to Johnstown on the day of the fatal disaster. He was removing the wires from the first to the second floor of the telegraph building, when the water struck the building and drowned six out of seven of the employees.

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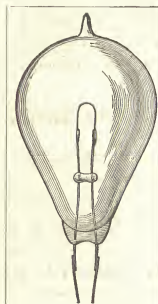
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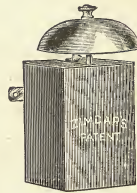
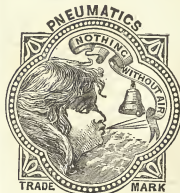
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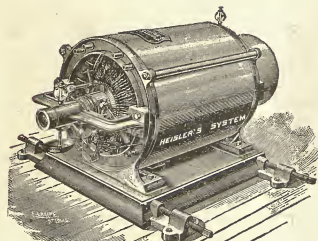
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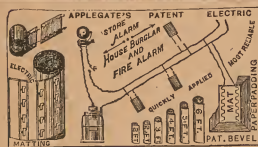
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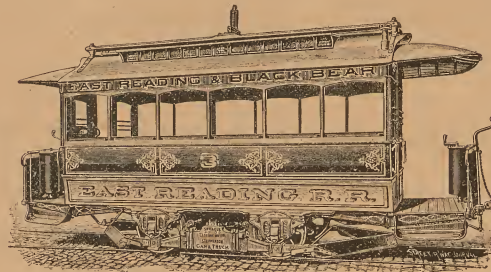
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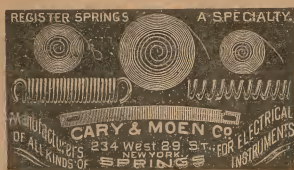
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